



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/595,089	02/07/2006	Sawako Nakamura	58922US005	2391
32692	7590	06/26/2009	EXAMINER	
3M INNOVATIVE PROPERTIES COMPANY PO BOX 33427 ST. PAUL, MN 55133-3427				DESAI, ANISH P
ART UNIT		PAPER NUMBER		
1794				
NOTIFICATION DATE			DELIVERY MODE	
06/26/2009			ELECTRONIC	

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

LegalUSDocketing@mmm.com
LegalDocketing@mmm.com

Office Action Summary	Application No.	Applicant(s)	
	10/595,089	NAKAMURA, SAWAKO	
	Examiner	Art Unit	
	ANISH DESAI	1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 19 February 2009.
- 2a) This action is **FINAL**. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 11-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 11-28 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ . |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>3/18/09</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| | 6) <input type="checkbox"/> Other: _____ . |

DETAILED ACTION

1. Applicant's arguments in response to the Office action dated 11/24/08 have been fully considered.
2. The 35 USC Section 103(a) rejections based on Masaki et al. (JP 10-077308) in view of Akihiro et al. (JP H2000-230162A1) are maintained.
3. After reviewing applicant's arguments and amendment, and the prior art as a whole, the 35 USC Section 103(a) rejections based on Moon et al. (US 4,988,742) in view of Blance et al. (US 3,632,412) and Akihiro et al. (JP H2000-230162) are withdrawn.
4. In view of applicant's amendment, a new 35 USC Section 103(a) rejection based on Masaki et al. (JP 10-077308) in view of Akihiro et al. (JP H2000-230162A1) and Moon et al. (US 4,988,742) is made.
5. All of the previously made art rejections are maintained.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 11 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Masaki et al. (JP 10-077308) in view of Akihiro et al. (JP H2000-230162A1).

7. Regarding claim 11, for the purpose of searching for and applying prior art under 35 USC 102 or 103, absent a clear indication in the specification or claims of what the basic and novel characteristics actually are, the recitation “consisting essentially of” will be construed as equivalent to “comprising.” (MPEP 2111.03). According to the MPEP, “If an applicant contends that additional steps or materials in the prior art are excluded by the recitation of “consisting essentially of”, **applicant has the burden of showing that the introduction of additional steps or components would materially change the characteristics of applicant’s invention**” (MPEP 2111.03 and *In re DeLajarte*, 337 F.2d 870, 143 USPQ 256 (CCPA 1964)).

8. Masaki discloses a flame-retardant adhesive tape comprising acrylic polymers (abstract). Additionally, the disclosure of Masaki at paragraph 0004-0005 with respect to the problems of using halogenated flame retardants is interpreted as the adhesive tape of Masaki is free of halogen. Additionally, the disclosure of Masaki at paragraph 0043 with respect to formation of the fire-resistant tape is interpreted to read on the halogen free flame-retardant acrylic PSA tape of Masaki comprising a base material and a PSA is disposed on the base material. The acrylic polymer of Masaki is formed of a mixture comprising (a) 50-98 wt% of (meth)acrylic ester monomer ((alkyl)methacrylate) and (b) **one or more of copolymerizable monomers that is copolymerized with monomer (a)** in the amount of 2 to 50 wt%; wherein the monomer (b) can be of

carboxyl group containing monomers such as acrylic acid, fumaric acid and/or nitrogen containing monomers such as N-vinyl pyrrolidone (abstract and 0010-0011).

9. Further, paragraph 0060, Example 2 of Masaki discloses PSA formed of acrylic polymer that is formed of a mixture containing units derived from 950g of isononyl acrylate (alkyl(meth)acrylate), 10g of acrylic acid (carboxyl group-containing monomer), and 40g of N-vinyl pyrrolidone (nitrogen-containing monomer). Based on this, the weight% of the monomer forming the acrylic polymer is 95% by weight of isononyl acrylate, 1% by weight of acrylic acid, and 4% by weight of N-vinyl pyrrolidone.

10. The difference between the claimed invention and the prior art of Masaki is that Masaki is silent as to teaching 15 to 400 parts by weight of a metal hydrate compound to 100 parts by weight of adhesive and 30 to 200 parts by weight of the metal hydrate compound to 100 parts by weight of the adhesive as claimed.

11. However, Akihiro discloses a flame-retardant PSA tape having high flame resistance and excellent adhesion at the same time without using a halogen based flame-retardant or antimony, both of which have negative impact on the environment and personal safety (see abstract). The adhesive of Akihiro includes flame resistant components such as ammonium polyphosphate and aluminum hydroxide in 8:2 to 3:7 ratio and the total amount of these components is 60 to 150 wt% per 100 parts of the flammable components (see "Solution"-first and second page). Moreover, at 0022, based on 100 parts by weight of acrylic polymer adhesive, Akihiro discloses 40 parts by

weight of metal hydrate such as aluminum hydroxide and 80 parts by weight of ammonium polyphosphate. Moreover, the adhesive tape of Akihiro has high flame resistance and excellent adhesion at the same time without using halogen-based flame-resistant agents (0003).

12. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to add the flame resistant component such as ammonium polyphosphate and aluminum hydroxide (metal hydrate) in the amount taught by Akihiro in the adhesive of Masaki, motivated by the desire to further enhance the flame-resistance characteristics of the adhesive tape of Masaki and provide an adhesive tape having excellent adhesion.

13. Claims 11-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Masaki et al. (JP 10-077308) in view of Akihiro et al. (JP H2000-230162A1) and Moon et al. (US 4,988,742).

14. With respect to claims 11, 12, and 19 recitation of “consisting essentially of”, for the purpose of searching for and applying prior art under 35 USC 102 or 103, absent a clear indication in the specification or claims of what the basic and novel characteristics actually are, the recitation “consisting essentially of” will be construed as equivalent to “comprising.” (MPEP 2111.03). Further, “If an applicant contends that additional steps or materials in the prior art are excluded by the recitation of “consisting essentially of”,

applicant has the burden of showing that the introduction of additional steps or components would materially change the characteristics of applicant's invention"

(MPEP 2111.03 and *In re DeLajarte*, 337 F.2d 870, 143 USPQ 256 (CCPA 1964)).

15. Additionally, regarding claims 12-14 and 19-21, it is noted that these claims do not exclude a PSA tape wherein both adhesive layers are formed of same acrylic polymer (i.e. acrylic polymer containing alkyl (meth)acrylate monomer, a nitrogen-containing monomer, and a carboxyl group containing monomer).

16. Masaki discloses a flame-retardant adhesive tape comprising acrylic polymers (abstract). Additionally, the disclosure of Masaki at paragraph 0004-0005 with respect to the problems of using halogenated flame retardants is interpreted as the adhesive tape of Masaki is free of halogen. Additionally, the disclosure of Masaki at paragraph 0043 with respect to formation of the fire-resistant tape is interpreted to read on the halogen free flame-retardant acrylic PSA tape of Masaki comprising a base material and a PSA is disposed on the base material. The acrylic polymer of Masaki is formed of a mixture comprising (a) 50-98 wt% of (meth)acrylic ester monomer ((alkyl)methacrylate) (0070) and (b) **one or more of copolymerizable monomers that is copolymerized with monomer (a)** in the amount of 2 to 50 wt%; wherein the monomer (b) can be of carboxyl group containing monomers such as acrylic acid, fumaric acid and/or nitrogen containing monomers such as N-vinyl pyrrolidone (abstract and 0010-0011). Further, paragraph 0060, Example 2 of Masaki discloses PSA formed of acrylic polymer that is formed of a mixture containing units derived from 950g isononyl acrylate

(alkyl(meth)acrylate), 10g of acrylic acid (carboxyl group-containing monomer), and 40g of N-vinyl pyrrolidone (nitrogen-containing monomer). Based on this, the weight% of the monomer forming the acrylic polymer is 95% by weight of isononyl acrylate (alkyl (meth)acrylate monomer), 1% by weight of acrylic acid (carboxyl group containing monomer), and 4% by weight of N-vinyl pyrrolidone (nitrogen containing monomer).

17. The difference between the claimed invention and the prior art of Masaki is that Masaki is silent as to teaching weight% of metal hydrate compound, multilayer adhesive tape, the second PSA is present on at least a portion of both sides of the flame retardant containing PSA layer, and the flame-retardant containing PSA is a foam as claimed.

18. However, Akihiro discloses a flame-retardant PSA tape having high flame resistance and excellent adhesion at the same time without using a halogen based flame-retardant or antimony, both of which have negative impact on the environment and personal safety (see abstract). The adhesive of Akihiro includes flame resistant components such as ammonium polyphosphate and aluminum hydroxide in 8:2 to 3:7 ratio and the total amount of these components is 60 to 150 wt% per 100 parts of the flammable components (see "Solution"-first and second page). Moreover, at 0022, based on 100 parts by weight of acrylic polymer adhesive, Akihiro discloses 40 parts by weight of metal hydrate such as aluminum hydroxide and 80 parts by weight of ammonium polyphosphate. Moreover, the adhesive tape of Akihiro has high flame

resistance and excellent adhesion at the same time without using halogen-based flame-resistant agents (0003).

19. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to add the flame resistant component such as ammonium polyphosphate and aluminum hydroxide (metal hydrate) in the amount taught by Akihiro in the adhesive of Masaki, motivated by the desire to further enhance the flame-resistance characteristics of the adhesive tape of Masaki and provide an adhesive tape having excellent adhesion.

20. Masaki as modified by Akihiro is silent as to teaching multilayer adhesive tape (i.e. second PSA layer), the second PSA is present on at least a portion of both sides of the flame retardant containing PSA layer, and the flame-retardant containing PSA is a foam.

21. However, Moon discloses an acrylic terpolymer PSA and PSA tapes comprising acrylic terpolymer PSA. Additionally, Moon is silent as to teaching presence of halogen in his/her adhesive tape (column 1 lines 6-8 and column 4 lines 65-67).

22. Further, at column 8 lines 44-57, Moon discloses a multilayer tape construction wherein coatable composition (i.e. PSA adhesive) are coated to provide a plurality of superimposed layers. Additionally, according to Moon "Tapes of the invention may comprise **more than one pressure-sensitive adhesive layer**. In such multilayer

tapes, **the pressure-sensitive layers may comprise similar or different adhesive compositions**, in like or unlike thicknesses, having similar or different additives."

(column 6 lines 62-67 to column 7 lines 1-3). Thus, Moon contemplates multilayer PSA tapes having similar adhesive compositions wherein the adhesive layers are coated on each other to provide superimposed adhesive layers.

23. It is noted that Masaki's as modified by Akihiro discloses a flame-retardant acrylic PSA tape comprising a base material and a PSA layer that is halogen free and comprising acrylic polymer as claimed (i.e. polymer comprising alkyl (meth)acrylate monomer, a nitrogen-containing monomer, and a carboxyl-containing monomer). Additionally, the PSA of Masaki as modified by Akihiro includes metal hydrate compound such as that of contemplated by applicant. Moon discloses that one can form PSA tape having more than one layer wherein the PSA layers comprise similar adhesive compositions (column 6 lines 65-68 to column 7 lines 1-2). Moreover, applicant's presently claimed invention (claims 12-14 and 19-21) does not exclude a PSA tape wherein both adhesive layers are formed of same acrylic polymer (i.e. acrylic polymer containing alkyl (meth)acrylate monomer, a nitrogen-containing monomer, and a carboxyl group containing monomer). Further, the weight% of each of the monomeric units forming the acrylic polymer of Masaki as set forth previously is within claimed by applicant.

24. Additionally, the Examiner submits that while the claim language of claims 12 and 19 recite “consisting essentially of” with respect to the second PSA, as set forth previously this is interpreted as “comprising”. As such, metal hydrate compound is not excluded from the second PSA even though claim recites "consisting essentially of" in claiming the second PSA. Further, “If an applicant contends that additional steps or materials in the prior art are excluded by the recitation of “consisting essentially of”, **applicant has the burden of showing that the introduction of additional steps or components would materially change the characteristics of applicant’s invention”** (MPEP 2111.03 and *In re DeLajarte*, 337 F.2d 870, 143 USPQ 256 (CCPA 1964)).

25. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to form the two layers of PSA (i.e. duplicate) of Masaki as modified by Akihiro as taught by Moon, motivated by the desire to enhance the strength of the adhesive tape. Further, it is noted that mere duplication of part has no patentable significance unless new and unexpected result is produced (MPEP 2144.04 B).

26. With respect to claims 15-18 and 22-25, with respect to the presence of the second PSA on at least a portion of both sides of the flame retardant containing PSA, as set forth previously Moon discloses multilayer PSA and based on the claim interpretation that claims do not exclude adhesive layers with same composition, thus, it would have been obvious to provide the second PSA on at least a portion of both sides

of the flame retardant containing PSA, motivated by the desire to enhance the strength of the adhesive tape.

27. As to the claim requirement of the flame retardant containing PSA is a foam, it is noted that Moon discloses foam like adhesive tapes at column 7 lines 6-30, wherein microspheres are added to the core layer. Further, Moon discloses that "It is possible to include the unexpanded microspheres in the PSA composition and subsequently heat them to cause expansion [interpreted to read on foam]" (column 7 lines 24-25). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to form the flame retardant containing PSA in the form of a foam, such that such tapes can be used for insulation, decoration etc.

Response to Arguments

28. Applicant's arguments received on 02/19/09 have been considered but they are not found persuasive.

29. On page 7 of applicant's amendment, with respect to the 35 USC Section 103(a) rejections based on Masaki et al. (JP 10-077308) in view of Akihiro et al. (JP H2000-230162A1), applicant argues that the purpose of the filler in Masaki's invention is to change the characteristics (i.e. shear strength and adhesion) of the PSA and thus Masaki is excluded by the recitation of "consisting essentially of".

30. The Examiner submits that while it may be true that addition of filler particles materially affects the shear strength and adhesion of the PSA as shown in the prior art, however, ***nothing in the specification of the present invention discloses or fairly suggests that the shear strength is a novel characteristics of the present invention.*** This is especially significant given that the adhesive of the present invention can also include fillers (see page 11 of the present specification). Thus, for the purposes of searching for and applying prior art under 35 U.S.C. 102 and 103, ***absent a clear indication in the specification or claims of what the basic and novel characteristics actually are***, “consisting essentially of” will be construed as equivalent to “comprising.” (MPEP 2111.03). Further, “If an applicant contends that additional steps or materials in the prior art are excluded by the recitation of “consisting essentially of”, ***applicant has the burden of showing that the introduction of additional steps or components would materially change the characteristics of applicant’s invention***” (MPEP 2111.03 and *In re DeLajarte*, 337 F.2d 870, 143 USPQ 256 (CCPA 1964)). Accordingly, the art rejections are sustained.

31. On page 8 of applicant's amendment, applicant argues that Moon is not a relevant prior art against the claimed invention given that the Moon requires the use of tackifier in the adhesive.

32. The Examiner submits that it is noted that Moon is now only used as a secondary reference against the present claims. While Moon discloses the use of tackifier, Moon is used as a teaching reference, and therefore, it is not necessary for this secondary

reference to contain all the features of the presently claimed invention, *In re Nievelt*, 482 F.2d 965, 179 USPQ 224, 226 (CCPA 1973), *In re Keller* 624 F.2d 413, 208 USPQ 871, 881 (CCPA 1981). Rather this reference teaches a certain concept namely multilayer adhesive tape (i.e. second PSA layer), the second PSA is present on at least a portion of both sides of the flame retardant containing PSA layer, and the flame-retardant containing PSA is a foam and in combination with the primary reference, discloses or renders obvious the presently claimed invention.

Conclusion

33. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

34. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

35. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANISH DESAI whose telephone number is (571)272-6467. The examiner can normally be reached on Monday-Friday, 8:00AM-4:30PM.
36. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Callie Shosho can be reached on 571-272-1123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.
37. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/A. D./
Examiner, Art Unit 1794

/Callie E. Shosho/
Supervisory Patent Examiner, Art Unit 1794